

FEDERAL RADIOLOGICAL MONITORING AND ASSESSMENT CENTER
ADVANCE PARTY PHASE RESPONSE ACTIONS

Bruce Hurley, Ph.D.
U.S. Department of Energy
Nevada Operations Office
P.O. Box 98518
Las Vegas, Nevada 89102
(702) 295-1284

Daryl Thome'
Bechtel Nevada
Remote Sensing Laboratory
P.O. Box 98521
Las Vegas, Nevada 89193
(702) 295-8780

SUMMARY

Federal Radiological Monitoring and Assessment Center (FRMAC) response actions are carried out in Advance Party and Main Party phases of deployment. Response activities are initiated by a FRMAC Home Team prior to and during Advance Party deployment, with Home Team support continuing until the FRMAC Main Party is fully-deployed. Upon arrival at the incident scene, the Advance Party establishes communications with other federal, state, and local response organizations. Following an Advance Party Meeting with these response organizations, FRMAC begins formulation of an initial monitoring and sampling plan, in coordination with the jurisdictional state and the Lead Federal Agency, and initiates detailed logistical arrangements for Main Party deployment and operations.

INTRODUCTION

The FRMAC is authorized by the Federal Radiological Emergency Response Plan (FRERP) to coordinate all off-site federal radiological response assistance to state and local governments in the event of a major radiological emergency in the United States. FRMAC is established and coordinated by the United States Department of Energy (DOE), but may include personnel from a number of other federal agencies, including the Department of Defense, Environmental Protection Agency, and Nuclear Regulatory Commission. It may also include members of state and/or local response organizations, at the discretion of the state or local organization with jurisdiction for the response. FRMAC assistance is provided to this

organization through the Lead Federal Agency (LFA), which manages and coordinates overall federal response actions.

When requested, the Federal Radiological Monitoring and Assessment Center provides the personnel and equipment required to carry out extensive field monitoring, sampling, analysis, and assessment operations. FRMAC deploys in two phases, with an initial Advance Party of six to twenty management and technical staff expected to arrive at the incident scene within four to eight hours of notification. The Advance Party is followed by the Main Party, which could include as many as several hundred personnel and several aircraft loads of equipment, dependent upon the size of the incident. Main Party deployment to the incident scene and setup of a fully-operational FRMAC are expected within 24 to 36 hours of notification, dependent upon such factors as weather, access, and transport availability. The actions taken during the Advance Party Phase are critical to an early and effective deployment of the FRMAC Main Party.

INITIAL ADVANCE PARTY PHASE ACTIONS

The Advance Party phase includes the full span of actions taken between the notification for deployment and the establishment of a fully-operational FRMAC. FRMAC may be initially notified of a major radiological incident by direct contact from states, DOE offices or program elements, or other federal agencies, with the Department of Energy Nevada Operations Office (DOE/NV). However, DOE/NV can mobilize and deploy FRMAC assets only when authorized to do so by the DOE Headquarters Office of Emergency Response (DP-23),

located in Germantown, Maryland. Upon initial notification, DOE/NV will immediately alert those organizations which take part in a FRMAC deployment, and upon direction to mobilize and deploy, will relay this direction to other FRMAC participants. In addition, the DOE/NV Emergency Operations Center (EOC) will continue close communications with the appropriate DOE/HQ and DOE field offices, and will establish and maintain contacts with the state and LFA at the incident scene, during Advance Party deployment.

Upon notification to mobilize the Federal Radiological Monitoring and Assessment Center, the DOE/NV EOC is fully activated, and the DOE/NV Manager, with the concurrence of DP-23, designates a FRMAC Director. Once designated, the FRMAC Director in turn selects the members of the Advance Party from a roster of qualified personnel maintained in the DOE/NV EOC. This roster includes personnel from the DOE, national laboratories, DOE contractor organizations, and other federal agencies. Callout of Advance Party members begins upon their selection, concurrent with callout of members of the DOE/NV Home Team.

When called out, Advance Party staff are directed to assemble at the DOE/NV EOC within two hours, prepared for extended deployment by air. The Advance Party staff will typically include individuals with expertise in health physics, radiological monitoring and sampling, data management and analysis, geographical information systems (GIS), logistics, flight operations, communications, finance, operations management, and word processing. These personnel will likely form a significant portion of the management cadre for the full FRMAC, with most members becoming senior managers for their respective specialties. Once assembled, the Advance Party will deploy from either Nellis Air Force Base or McCarran International Airport in Las Vegas, depending upon the availability of military or civilian air transport, respectively, to the incident scene.

Initial FRMAC response activities are ongoing in Las Vegas during Advance Party assembly and transport to the incident scene. Early on, the DOE/NV EOC will contact the Atmospheric Release Advisory Capability (ARAC), based at Lawrence Livermore National Laboratory, to request predictive plots for the airborne dispersal of radioactive materials, based on information available on the incident. The EOC will establish close communications with the Remote Sensing Laboratory at Nellis Air Force Base, operated for DOE/NV by Bechtel Nevada, where the FRMAC Home Team will mobilize and deploy the Aerial Measuring System (AMS), and technical support personnel and equipment for the FRMAC Main Party. The EOC will likewise be in close contact with the Environmental Protection Agency (EPA) Office of Radiation and Indoor Environment (R&IE) and the Air Resources Laboratory, Special Operations and

Research Division (ARL/SORD) of the National Oceanographic and Atmospheric Administration, both located in Las Vegas. R&IE and ARL/SORD provide radiological monitoring support and laboratory analytical capability, and meteorological support and forecasting capability, respectively, for the FRMAC. Contact will also be made with other agency offices which may participate in the FRMAC, depending upon the circumstances of a specific incident.

DOE/NV will continue direct communications with other DOE offices, the state, and the LFA until the FRMAC command cell becomes operational at the incident scene. Internal DOE interactions will address such topics as the procurement of revised ARAC plots and arrangement for Radiological Assistance Program (RAP) personnel and equipment to support FRMAC monitoring efforts. State and LFA interactions will include ongoing transmittal of situation updates on the emergency, and preliminary discussions regarding on FRMAC logistical support needs from state and local sources. The DOE/NV EOC will arrange initial contact meetings between DOE and LFA representatives and the Advance Party and, if possible, transmit this to the Advance Party *en route*. A tentative time and location for the Advance Party Meeting will be arranged, and a FAX of the agenda for this meeting will be sent to representatives of the LFA, state, and local response organizations.

ADVANCE PARTY ACTIONS AT THE INCIDENT SCENE

Immediately upon arrival in the vicinity of the incident, the Advance Party will notify DOE/NV and DOE/HQ of its arrival, and receive specifics for the Advance Party Meeting. It will then establish contact with an on-scene DOE official and representatives of the RAP (and AMS, if present), state, and LFA. In these initial meetings, the Advance Party will receive situation updates on the emergency and arrange a time and location for the FRMAC Advance Party Meeting. Problem areas in the emerging response will also be indicated, and suggestions for location of the FRMAC discussed.

The Advance Party Meeting will include, in addition to those organizations mentioned above, representatives of local and other federal response agencies, as appropriate to the specific emergency situation. The Advance Party Meeting is extremely important, not only because it initiates large-scale response activities to characterize the extent of radiation in the offsite area, but also because it sets the tone for interaction and cooperation between the various response agencies and levels of government involved. Failure to establish an open and effective relationship of mutual cooperation between all components of the response at this meeting will very likely lead to difficulties in actual response operations.

Therefore, inclusion of and receipt of input from all the major response organizations involved is a primary goal for the Advance Party Meeting.

The Advance Party Meeting will address a wide range of topics, beginning with an update on the status of the emergency, usually presented by the LFA or the owner of the facility or materials involved. This status update will include information on the radiological release, such as source term estimates, meteorologic conditions during release(s), and the potential for further events. Atmospheric prediction plots, such as those provided by ARAC, will be reviewed, along with all data-collecting activities during the previous twelve hours, including any onsite and offsite monitoring results. Those actions planned for the next twelve hours will also be discussed.

Following the “onsite status” briefing, the state will brief on the status of the emergency from the state and local perspective. This briefing should include information on jurisdictional authorities for response actions, status of protective actions implementation, and potential compounding conditions which could affect FRMAC operations. It is anticipated that the state will also review their actions in the past twelve hours, and those activities planned for the next twelve hours.

At this stage of the Advance Party Meeting, the FRMAC Director will give a briefing in which the Senior Energy Official is identified, and the DOE command structure and FRMAC organization are explained. The Director will provide an overview of FRMAC operations, including description of FRMAC’s function, resources and capabilities, data flow methodology, and expected products. The anticipated timetable for FRMAC to reach full operational capability will also be discussed.

Following the FRMAC Director’s briefing, there will be an open discussion of LFA and state concerns, and their views regarding the highest initial priorities for FRMAC. Channels of communication between the LFA, state, and local response organizations and the FRMAC will be established, through identification of primary LFA, state, and local contacts and radiological response decision-makers, and designation of LFA, state, and local personnel to work with the FRMAC Director. Liaison personnel will be identified and placed between the FRMAC and the LFA, state, and local response organizations. A determination regarding whether the state will choose to merge their offsite monitoring efforts with the FRMAC will be requested at this time; if the state chooses to do so, responsibility for facilitating this process will be assigned, as appropriate.

The remainder of the Advance Party Meeting will be concerned with initiating various logistical and technical activities of the FRMAC response. Topical areas will include the following:

- o establishment of a location for a FRMAC operations center
- o identification of local, state, and LFA individuals to assist FRMAC in arranging logistical support for the Advance and Main Party personnel
- o definition of the initial AMS radiological survey mission
- o identification of local and state personnel to assist with AMS flight operations logistical arrangements
- o identification of LFA, state, and local individuals to work on development of an Initial FRMAC Monitoring and Sampling Plan
- o identification of LFA, state, and local personnel to work with FRMAC Dose Assessment
- o determination of FRMAC activities for the next twelve hours
- o consideration of any other issues not previously addressed.

Following these discussions, the time and location of future meeting between the LFA, state, local, and FRMAC management staffs will be determined, and the Advance Party meeting will be adjourned.

INITIAL FRMAC MONITORING

Once the Advance Party Meeting is completed, planning of initial FRMAC monitoring and sampling activities will begin immediately, along with those actions necessary to establish a FRMAC operations center. Depending upon specific circumstances of the deployment, the Advance Party may be accompanied by a limited number of field monitoring personnel equipped with portable radiation detection equipment. With such an advance monitoring team deployment, initial FRMAC monitoring and sampling activities would be carried out by this team, likely along with RAP, and possibly state, radiological response personnel. Without such an advance monitoring team, AMS is expected to provide initial FRMAC monitoring data. Arrival of fixed-wing AMS monitoring aircraft at any location within the lower forty eight states is anticipated within six hours of mobilization from either Nellis Air Force Base, Nevada, or Andrews Air Force Base, Maryland, while helicopter AMS aircraft should arrive within sixteen hours. Additional FRMAC monitoring resources, along with database management, assessment, GIS, and other FRMAC capabilities, will join the response effort upon their arrival, until the FRMAC becomes fully-operational in the Main Party phase.

REFERENCES

Federal Radiological Monitoring and Assessment Center Operations Plan, Emergency Phase, Doc. No. DOE/NV/11718-080, 1995; U.S. Department of Energy,

Nevada Operations Office, Las Vegas, NV.

Overview of FRMAC Operations, Doc. No. DOE/NV-358-Revision 3, 1996; U.S. Department of Energy, Nevada Operations Office, Las Vegas, NV.